PAKISTAN JOURNAL OF SCIENTIFIC & INDUSTRIAL RESEARCH

Vol. 41 CONTENTS 1998

No. 1, February

PHYSICAL SCIENCES SECTION

Synthesis of n-butyl acrylate-co-ethyl acrylate and polyblends with chlorinated rubber (CR)
A Rasheed Khan, Kausar Ali Syed, Khalid Mehmood and A F K Ifrahim (Pakistan) 1

Isolation and NMR-assignments of 19αH-lupeol from *E. helioscopia* Linn (*N.O. Euphorbiaceae*)
Muhammad Nazir, Waqar Ahmad and Wolfgang Kreiser (Pakistan) 6

Impact of groundwater irrigation on the chemical characteristics of soil at Shahzadpur in Bangladesh
M W Zaman and M M Rahman (Bangladesh) 11

Complexes of 1,4-diaminobenzene tetracetic acid with some of the transition metals
Saeed-ur-Rehman, Farhat-un-Nisa and Masood Ahmed (Pakistan) 17

BIOLOGICAL SCIENCES SECTION

Effect of chrome-syntan-vegetable combination retannage and polymerization *(in Situ)* on the internal membrane of bovine stomachs from exotic leather
Muhammad Saeed Khan and S R H Jafri (Pakistan) 23

Use of filter cake in animal diet *Part I.* Effect of using filter cake in the diet on the weight gain of young Buffalo calves
Akhtar Ali, Muhammad Yasin Ahmad, Muhammad Ibrahim, Ajmal Khan and Nisar Ahmad (Pakistan) 28

Productivity of rice-wheat system in relation to Azolla green manure fertilized with nitrogen and phosphorus
M Sharif Zia, M Salim, Arshad Ali and Rahmatullah (Pakistan) 32

Effect of Okra leaf shape on boll rot, earliness and yield of upland cotton *Gossypium hirsutum* L
Abdul Razaque Soomro, Ali Mohammad Memon, Gulab H Nachnani and Ali Hassan Baloch (Pakistan) 36

Preparation of weight reducing diet and its biological and clinical evaluation
Iftikhar A Sheikh, M Arshad, M Aslam, Razia Adil, Gulshan Almas and Akmal Javaid (Pakistan) 39

Seed-borne mycoflora of vegetable seed lots in northern areas of Pakistan
M Qasim Khan and S Irfan Ahmad (Pakistan) 47

Heterotic response of F_1 sorghum Hybrids to NaCl salinity at early stage of plant growth
Faqir Muhammad Azhar, Syed Sarfraz Hussain and Ishtiaq Mahmood (Pakistan) 50

PAKISTAN JOURNAL OF SCIENTIFIC & INDUSTRIAL RESEARCH

Vol. 41 CONTENTS 1998

No. 1, February

PHYSICAL SCIENCES SECTION

Synthesis of n-butyl acrylate-co-ethyl acrylate and polyblends with chlorinated rubber (CR)
A Rasheed Khan, Kausar Ali Syed, Khalid Mehmood and A F K Ifrahim (Pakistan) 1

Isolation and NMR-assignments of 19αH-lupeol from *E. helioscopia* Linn (*N.O. Euphorbiaceae*)
Muhammad Nazir, Waqar Ahmad and Wolfgang Kreiser (Pakistan) 6

Impact of groundwater irrigation on the chemical characteristics of soil at Shahzadpur in Bangladesh
M W Zaman and M M Rahman (Bangladesh) 11

Complexes of 1,4-diaminobenzene tetracetic acid with some of the transition metals
Saeed-ur-Rehman, Farhat-un-Nisa and Masood Ahmed (Pakistan) 17

BIOLOGICAL SCIENCES SECTION

Effect of chrome-syntan-vegetable combination retannage and polymerization *(in Situ)* on the internal membrane of bovine stomachs from exotic leather
Muhammad Saeed Khan and S R H Jafri (Pakistan) 23

Use of filter cake in animal diet *Part I.* Effect of using filter cake in the diet on the weight gain of young Buffalo calves
Akhtar Ali, Muhammad Yasin Ahmad, Muhammad Ibrahim, Ajmal Khan and Nisar Ahmad (Pakistan) 28

Productivity of rice-wheat system in relation to Azolla green manure fertilized with nitrogen and phosphorus
M Sharif Zia, M Salim, Arshad Ali and Rahmatullah (Pakistan) 32

Effect of Okra leaf shape on boll rot, earliness and yield of upland cotton *Gossypium hirsutum* L
Abdul Razaque Soomro, Ali Mohammad Memon, Gulab H Nachnani and Ali Hassan Baloch (Pakistan) 36

Preparation of weight reducing diet and its biological and clinical evaluation
Iftikhar A Sheikh, M Arshad, M Aslam, Razia Adil, Gulshan Almas and Akmal Javaid (Pakistan) 39

Seed-borne mycoflora of vegetable seed lots in northern areas of Pakistan
M Qasim Khan and S Irfan Ahmad (Pakistan) 47

Heterotic response of F_1 sorghum Hybrids to NaCl salinity at early stage of plant growth
Faqir Muhammad Azhar, Syed Sarfraz Hussain and Ishtiaq Mahmood (Pakistan) 50

Genetic studies of cotton *(Gossypium hirsutum* L) *I.* Combining ability and heterosis studies in yield and yield components
Nadeem Austin, Munir-ud-Din Khan, Manzoor Ahmad Khan and Mushtaq Ahmad (Pakistan) 54

TECHNOLOGY SECTION

Geochemical characterization of important magnesite deposits of Pakistan for their modern industrial application
Zafar Kaifi, Viqar Husain, M A Qasir and Aurangzeb(Pakistan) 57

No. 2, April

PHYSICAL SCIENCES SECTION

Potential antibacterial agents *Part-IV.* Synthesis of new 1[2-pyrimidino]-amino-methyl benzimidazoles and 1, 2, 3 benzotriazoles
Shaheen A Hussain, Tahira B Sarfaraz, Najma Murtaza, Shaheen Faizi (Pakistan) 63

Distribution of fatty acids in the triglycerides of *Citrullus vulgaris*
M Akhtar Javed, Manzoor Ahmad, Haider Ali (Pakistan) 68

Ligand effect on oxidation rates of cysteine by iron (III) complexes
Hamzeh M Abdel-Halim, Salama B. Salama and Suad K Al-Burtamani (Sultanate of Oman) 71

Effect of epoxides on ultraviolet degradation of polyvinyl chloride
Elham M Sadek (Egypt) 75

Studies with polyfunctionally substituted heteroaromatic compounds: Synthesis of some new polyfunctionally substituted pyrido [3, 2-c]-pyridines and pyrido [2, 3-c]-pyridazines
S M El-Kousy, R.M Mohareb, M Riad and M H Elnagdi (Egypt) 81

The complex diffectric properties of petroleum and their admixtures
Mohammad Yaqub and S Shakil Ahmad (Pakistan) 86

BIOLOGICAL SCIENCES SECTION

Antiulcerogenic evaluation of aqueous extracts of *Cichorium intybus* and *Phyllanthus emblica* in Normal and aspirin-treated rats
K D Ahmad, S N Gilani, A H Akhtar and L Khan (Pakistan) 92

Utilization of rapeseed meal/cake in poultry feed I. Effect of incorporating 10% rapeseed cake in poultry diet on the growth and laying performance of brown-egg-layer (Tetra SL)
Amal Badshah, Aurang Zeb, Nizakat Bibi, Sajjad Ali and M A Chaudry (Pakistan) 97

Enhanced detection of nitrofurantoin as a mutagen by a mutator R-plasmid
John Akerele and E E Obaseiki-Ebor (Nigeria) 102

TECHNOLOGY SECTION

Improvement of low grade jute fibre by enzymatic pretreatment with higher pin density in the finisher card
M A Sobhan Sheikh, G Mohiuddin, M O G Miazi, S H Talukder, M K Kabir (Bangladesh) 107

Determination of Sorption-isotherms in food
Alam Zeb 111

No. 3, June

PHYSICAL SCIENCES SECTION

Effect of ammonium sulfate-sulfur mixture on the diffusivity and index of activity of ammonium sulfate
H A Sibak (Egypt) 113

Reaction kinetics for the leaching of impurities from rock phosphate
E O Olanipekun and J T Bangbose (Nigeria) 116

Kinetics of Mn^{2+} extraction in the acidic chloride-D2EHPA-kerosene system using the constant interfacial area stirred cell technique
R K Biswa, M A Habib, M R Ali and M Z Haque (Bangladesh) 121

Mixed ligand complexes of bivalent metal ions with 4, 6-diamino 2-hydroxypyrimidine
Maddy Satyanarayan Reddy, K Siddiram Reddy and B Bharath Kumar Goud (India) 128

Activation of D. G. Khan fuller's earth with hydrochloric acid
M Rafique Chaudhry and M Yusuf (Pakistan) 132

Effect of Al_2O_3 and B_2O_3 on selenium ruby glasses for red signals
Muhammad Aslam Choudhry (Pakistan) 136

Studies on the leaching of copper from complex copper ores of Chitral
Farzana, Izharul Haq Khan, Fayaz Mahmood & Muhammad Zafar Iqbal 140

The effect of amino acids on the adsorption of direct red on cellulose fibres
Shahina Waheed, M Farooq Arif and Badruddin (Pakistan) 145

BIOLOGICAL SCIENCES SECTION

Studies on the proteolytic activity of papaya juice
Askari Begum and R B Qadri (Pakistan) 151

Photosynthetic efficiency of wheat under water stress conditions
Muhammad Yasin Ashraf (Pakistan) 156

TECHNOLOGY SECTION

Measurement of thermal conductivity of marble powder by spherical shell method
M Khalid and G H Shaikh (Pakistan) 164

No. 4, August

PHYSICAL SCIENCES SECTION

Study of paramagnetism in pyrrole based conducting polymers using ESR measurements at low temperatures and pressures
M S Kiani, F J Davis and G R Mitchell (Azad Kashmir) 167

Kinetics of ilmenite dissolution by hydrofluoric acid
E O Olanipekun (Nigeria) 175

Impact of subsynchronous resonance on system dynamic stability
Abdulaziz A El-Sulaiman (Saudi Arabia) 180

Vehicular contribution to road traffic noise in Karachi city, Part II. Contribution by cars, trucks and horns
G H Shaikh (Pakistan) 186

Kinetic studies and reactor designing for the production of light weight magnesium carbonate
Nayeemuddin, S Naeem Mahmood, S Burhanuddin Abdali, M Habib and Mohsin Ali (Pakistan) 190

BIOLOGICAL SCIENCES SECTION

Consumptive use of water and NP doses on grain yield of maize
M A Sethar, U A Buriro, Q I Chachar and A S Larik (Pakistan) 195

Effect of different harvesting times on the corm yield of some Gladiolus (*Gladiolus* L.) cultivars
Asli B Korkut, Shahid Javed Butt and Emel Dozalan (Turkey) 199

Pharmacological evaluation of the antiemetic action of *Nelumbium speciosum*-wild seeds
Zahra Yaqeen, Maryam Mirza, Yaqeenuddin, Kaneez Fatima Ahmad and Yasmeen Badar (Pakistan) 203

Grain yield and yield attributes of boro rice as affected by cultivars and weeding regime in haor area
S M Shaheen Anwar, A A Mamun, M Nasim and H M Babar (Bangladesh) 208

Inhibition of nitrification in soil by baythroid and its comparison with N-serve
Asma Lodhi, N N Malik and F Azam (Pakistan) 212

TECHNOLOGY SECTION

Spectrophotometric determination of titanium and iron application to Cherat volcanic ash, NWFP
Kamun Khan, Hajra Masood and Taj Ali Khan (Pakistan) 217

No. 5, October

PHYSICAL SCIENCES SECTION

Studies on mixed ligand complexes of iron (III), chromium (III) and nickel (II) containing dicarboxylic acid and 5,7, 7, 12, 14, 14 hexamethyl 1, 4, 8, 11 tetraazacyclotetradeca 4, 11 diene
M Saidul Islam, Motahera Begum, Harendra Nath Roy and Yeamin Reza (Bangladesh) 221

A review of feldspathic raw materials' incorporation in glass and ceramics
Muhammad Rafique and Muhammad Yousuf (Pakistan) 225

Viscosity coefficients and activation parameters of lanthanum chloride in pure and mixed solvents at different temperatures
Shaista Jabeen and Shagufta Akber (Pakistan) 229

Delignification of kenaf (*Hibiscus sabdariffa*) by organosolv pulping process *Part I.* Acetic acid
Tamoor Wahab Ahmed, Tanzil H Usmani, M Tahir Motan, M A Damani and S H Abid Askari (Pakistan) 235

Short Communications

Volatile flavour components of *Allium sativum* essential oil from Pakistan
M Riaz, M Javaid Iqbal and F M Chaudhry(Pakistan) 240

Synthesis and electronic absorption spectra of some azo dyes and their analogues azomethines
Abdullah Mohamed Asiri (Saudia Arabia) 242

BIOLOGICAL SCIENCES SECTION

New records of coprophilous fungi from Turkham, North Pakistan
Ahmadunnisa Masood, S I Ahmed and R B Qadri (Pakistan) 244

Inorganic elemental concentrations of wild *Catla catla* in relation to growth
Abdus Salam, Javed Akhter Mahmood, Qurrat-ul-Aen Akhtar, Tariq Mahmood Ansari and Naheed Tariq (Pakistan) 247

Ecological Assessment of rangeland vegetation in Southern Attock *Part I.* Phytosociology
Munir Ahmad, Faqir A Raza, Ghulam Akbar and M Arshad (Pakistan) 251

Occurrence of Fish eggs (Families: Engraulidae and Carangidae) in the backwater of Karachi harbour
Zakia Khatoon and S Makhdoom Hussain (Pakistan) 256

Screening elite hybrids of cotton *Gossypium hirsutum* L.
Zaheer Ahmed Soomro, Muhammad Shaban Kalwar, Muhammad Ishaque Memon and Mazhar Din Keerio (Pakistan) 260

TECHNOLOGY SECTION

High molecular weight acid phosphatase from Chicken liver: Isolation, purification and characterization
A Saeed, A R Khan, Rubina Naz and Mukhtiar Hassan (Pakistan) 264

No. 6, December

PHYSICAL SCIENCES SECTION

Monosaccharide composition of high molecular weight culture filtrate elicitor of *Colletotrichum lindemuthianum* determined by high performance anion-exchange/pulsed amperometric detection (HPAE-PAD)
Fatima Bi and Paul Finch (Pakistan) 271

Organochlorine, organophosphorus and synthetic pyrethroid pesticides affecting food constituents in cotton seeds and wheat grains during storage
Zahida Parveen, Irshad A K Afridi and S Z Masud (Pakistan) 275

Effects of processing additives on the properties of natural rubber (NSR20)
A V Popoola and E Ogedengbe (Nigeria) 281

A study of deviation from local thermodynamic equilibrium in thermal plasmas by optical emission spectroscopy
Salim Akbar and Kasra Etemadi (Pakistan) 285

Measurement of radon concentration levels in old buildings to Lahore, Pakistan
Arif Mahmood, M S Zafar, S A Mughal and K Jamil(Pakistan) 290

Short Communication

Estimation and comparison of Q-e parameter of methyl methacrylate and acrylamide copolymerized with styrene in the presence of cyclohexanone and methyl cyanoacetate
Mir Munsif Ali Talpur, Tajnees Pirzada and Mir Sajjad Hussain Talpur (Pakistan) 295

BIOLOGICAL SCIENCES SECTION

Wheat (*Triticum Aestivum* L.) stand establishment in legume and non-legume based cropping systems
Muhammad Aslam, N I Hashmi, A Majid, Iftikhar Ahmad and A Razzaq (Pakistan) 298

Ion efflux in cotton roots at different stages of development and temperature regimes
M A Sethar, Q A Chachar, D L Laidman, J M Wilson and R B Mirbahar (Pakistan) 303

Preliminary studies on the population of phytonematodes with betlevine (*Piper betle*) and their control by indigenous nematicide
Hanif A Khan, Saeed A Khan and Fatima Qamar (Pakistan) 307

Short Communication

Trace elements in *Tamarindus indica* Linn and their nutritional importance
Maryam Mirza, Zahra Yaqeen, Yaqeenuddin, Muhammad Qadiruddin and Yasmeen Badar (Pakistan) 310

TECHNOLOGY SECTION

Hydrothermal crystallization and crystal growth of a SiO_2 from rice husk silica ash in alkaline solutions
S A El-Korashy (Egypt) 312

Review Article

Relative yields of crops and crop losses due to weed competition in Bangladesh
S M Rezaul Karim, T M T Iqbal and N Islam (Bangladesh) 318

CONTENTS OF VOLUME 41 (ii)

AUTHOR INDEX (ix)

SUBJECT INDEX (xii)